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Original Articles.

SULPHO-CARBOLATE IN TYPHOID FEVER.

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TO be consistent, one's treatment of typhoid fever should be based on one's belief as to its etiology. There are few now who in the face of modern scientific research, have the temerity to deny the causal relation of the typhoid bacillus. There are many of us, also, who believe that in addition to the mischief wrought by the typhoid bacillus, the condition of the patient is made worse by the presence of various other pathogenic micro-organisms.

According to this belief the ideal medicine in typhoid would be one that would kill these microbes, or at least prevent their further multiplication; or in other words, our aim should be to obtain a perfect intestinal asepsis. It is very doubtful, however, that this aim can ever be reached.

Indeed I do not think it likely that any actual specific for typhoid, in the form of a drug, will ever be discovered. If any certain cure is to be found it will probably be in the form of vaccinating, either before or after the fever has been contracted, and thus render the body an unsuitable nidus for the development of the bacillus.

It is generally admitted that gonorrhœa is caused by the gonococcus of Neisser, yet the most active antiseptic treatment has as yet failed successfully to abort the disease; the usual explanation being that the cocci have invaded the tissues too deeply to be reached. If, however, such is the case in the easily reached, comparatively smooth urethral mucous membrane, how infinitely more difficult to reach and affect the bacilli lodged in the million and one crypts and follicles of the small intestine.

Nevertheless, although we do not have, and may never have, a drug capable of pursuing to their inmost recesses and exterminating the poisonous microbes, yet we have some medicines which can at least render the intestinal mucous membrane, and the intestinal contents, less suitable soil than they normally are for the development of these micro-organisms. Pre-eminent among these, according to my opinion, is the sulpho-carbolate of zinc. This is one of the drugs which I think it is of little use to employ in small doses. It is not a case in which a molecular effect is to be wrought on the sensitive organization of brain cell, nerve cell, or the cells of one of the various organs, instances in which minute doses, frequently repeated, often have a most happy result.

There is here a long, large, and filthy alimentary canal to be disinfected; consequently, whatever antiseptic is used, I think that all should be given, the organism will stand. With the sulpho-carbolate of zinc, I am in the habit of giving to an adult five grains every three or four hours, until the temperature falls. So far, I have invariably found that, in from twelve to thirty hours, the temperature falls from one to two degrees. Of course, I do not allude to the morning subsidence, I mean a positive reduction. The sulpho-carbolate of zinc, I believe, is not claimed *per se* to have antipyretic qualities. If such is the case, how else can the invariable lowering of the temperature be explained than on the ground that a portion of the irritation is removed? And, as we believe micro-organisms to be the source of the irritation, it must be that some of them are either killed, or that the amount of their life activity is lessened.

By lessening the amount of irritation, we lessen the amount of poisonous ptomaines thrown into the system, and thus conserve a portion of the patient's vitality that would otherwise be lost. By this means we are more likely to keep him alive until the bacilli have run their course, because they have rendered their host unfit soil for further development.

The likelihood of tiding our patient over the critical period is thus enhanced, and the probability of restoring him to health and strength greatly increased.

FOUR CASES OF COMPOUND COMMINUTED FRACTURE.

By WM. TREACY, M.D.

HELENA, MONT.

CASE No. 1.—Lena Allison, aged 5 years, was accidentally shot with a Winchester rifle, 45 calibre ball. She was standing about four feet from muzzle of gun, and the ball entered just below right trochanter, fracturing femur, the ascending rami of pubis and the left femur about two inches below trochanter. The entrance wound was small, with exit about four inches long. Patient was given chloroform; entrance wound was enlarged, and nearly two inches of bone substance removed; exit wound was sufficiently large to admit of examination and removal of all detached and partially detached fragments; and loss of bone could not have been less than four inches. I did not attempt to unite bone with wire suture, because I did not think that the girl would live; but had great faith in nature, and the pure air of Montana. A bloody discharge from the rectum was found, upon examination, to be caused by a fragment of bone as large as a hickory-nut, which had been driven nearly through right wall of rectum. It was removed without difficulty with dressing forceps. Wounds were thoroughly cleansed with carbolic acid and packed with boracic acid. An extemporized fracture bed was made by stretching part of a canvas wagon cover over a frame made of 2x4's. The frame was five feet long and three feet wide. Canvas was securely tacked to frame, and openings were made in the canvas for passage of feces, also under wound in each thigh. Two large sized fountain syringes were suspended above the bed and kept constantly full of a very weak solution of warm carbolized water. Parts were kept constantly irrigated in this way for five days and nights.

No swelling having taken place in either limb, and the highest temperature being 100, the irrigation was stopped and wound thoroughly cleansed with carbolic acid and packed with dry boracic acid; as it irritates the tissues very little, if at all, has no poisonous properties, and is a moderately strong antiseptic. The only splint used was a long sand bag on each side, extending from axilla to sole of feet, with cotton padding between the limbs.

Extension was used on both limbs, that afforded great relief to pain caused by muscular spasm, and kept the limbs the same length. The rectal wound did not cause any trouble. Gentle motion of knee joints was commenced after the fourth week and continued throughout treatment. Small pieces of bone were removed from time to time. Four months after accident, the patient had good union, and was able to be in a wheel-chair most of the day. Six months from the time of accident, she could run and walk as well as ever; had good motion in both hips and knee joints, and both legs were the same length.

Case No. 2.—George Benedict, 25 years old, was shot September 27, 1887, near Demarsville. He was placed upon a cot and a bandage tied about the limb above wound to stop hemorrhage; and after a five days journey, part of the way in a lumber wagon, arrived at St. Peter's hospital, this city. He was in very bad condition, had suffered severely from the shock and the journey. Upon examination, limb was found enormously swollen and almost black, caused by obstruction to return circulation by tight bandage. There was an offensive, bloody discharge. Dr. Wm. L. Steele, of this city, kindly saw the case with me. We gave an anesthetic and examined the wound carefully. The ball entered anterior surface of thigh two inches below the trochanter, producing a compound comminuted fracture of femur and emerging posteriorly about two inches lower than the point of entrance. We decided to try and save the limb, as we did not consider that the tissues were in condition for an operation, and that if made the line of amputation would be so high up that the patient would die, while under the influence of ether. The wound was enlarged and all detached fragments of bone were removed and a large drainage tube inserted. Patient was placed on a canvas bed similar to one used in my first case, and sand bags used to keep the limb in position.

Constant irrigation was continued for nearly three weeks; as soon as it was discontinued the temperature would rise and immediately fall as soon as irrigation was commenced again. Patient was very poorly nourished and in bad condition generally. Temperature on night of arrival was 105° but declined three degrees, two hours after dressing and a full dose of opium. The patient was given syr. ferri iodidi. Had very little trouble with wound after first three weeks. The leg was dressed with gauze and long side splint. Passive motion at knee joint was continued throughout treatment. Leg united firmly four months after the accident. Had some trouble caused by small fragments of bone being necrosed from ends of shaft. He was discharged April 14, with a very good leg and is now a drug clerk in Iowa.

Case No. 3.—Last fall I was again associated with Dr. Steele in the treatment of a young man who was accidentally shot through the upper third of the left humerus.

The accident occurred seventy-five miles from Helena and the patient was brought here in a wagon. A temporary dressing had been applied by Dr. Gordon, of Great Falls, so that the patient reached Helena in good condition. The morning after his arrival here the patient was etherized and the wound enlarged. The bone was found to be very badly fractured, the nerve and artery intact. The upper and lower ends of the shaft of the humerus were made as even as possible with a pair of bone forceps, all fragments removed, the incision closed with catgut sutures and a binder's board splint applied. An opening was left for irrigation with carbolized solution and dressing applied. No wire or other sutures were used to unite the bone.

This patient recovered without a bad symptom; with good firm union and use of muscles in eight weeks.

Case No. 4.—Compound comminuted fracture of bones of foot. March 7th, about 10 P. M., this patient, a traveling man, who was in a hurry to catch a passenger train at Livingston, tried to pass between two freight cars attached to a train standing on a side track. He stepped upon a link coupling and was caught between the bumpers. The train was a long one, and the cars came together with great force. He wore a shoe with a heavy sole. After catching him, the engineer continued to back the train, and held him some minutes before he was discovered by one of the brakemen and released. The case was seen by Dr. Collins, of Livingston, and a very comfortable temporary dressing applied by him. The patient came to Helena, his home, next day. I met him at the depot, and advised him to go to the hospital, for a few days at least, thinking that an amputation would certainly have to be made. Upon examination, I found a compound comminuted fracture of metatarsal bones, with a fracture of lower end of fibula, arch of foot pressed out of shape, and an opening three inches long on dorsal surface, commencing at base of big toe, and extending backwards between second and

third metatarsal bones; foot badly swollen and very badly contused throughout; soft and pulpy below external and internal malleoli. I determined to try to save the foot, and commenced continuous irrigation with warm carbolized water, and had it kept up constantly for five days and nights.

On the third day, the tissues on the dorsal surface became gangrenous about the opening. An incision was made below the lower end of tibia and fibula, and two drainage tubes inserted connected with the opening at base of big toe. Temperature on the third day, was 103½, patient was very restless and anxious, pulse 120, very little pain. Next morning the foot was less swollen and commenced to discharge a very foul smelling bloody pus; gangrenous tissue was cut away and foot thoroughly washed out with peroxide of hydrogen; in the morning on fifth day the tissues became more healthy. Ten days later, assisted by Dr. Geo. H. Barbour, I removed the second and third metatarsal bones. They were entirely denuded of periosteum. Irrigation was discontinued and the foot dressed with boracic acid and bichloride gauze, after a thorough application of peroxide of hydrogen, each day for ten days, then dressed only once a week. The foot improved rapidly and made a complete recovery.

PRACTICAL THOUGHTS ON NITROGLYCERINE—VERATRUM VIRIDE.

By T. G. STEPHENS, M.D.
SIDNEY, IOWA.

THE origin of the present thoughts lay in my reading Dr. Harbin's article on puerperal eclampsia (treated with nitroglycerine) in the TIMES AND REGISTER, Vol. xxv. No. 22. In certain conditions the action of nitroglycerine or glonoin, is marvelous. When a powerful stimulant is indicated its universality of action distinguishes it from all others; and if given more freely than is necessary for the exertion of its influence in this way, it not only operates on the brain especially, but does so with great energy. In favor of nitroglycerine is its smallness of bulk; and as an antispasmodic and nervous stimulant it has no peer amongst medicines of that class. In a case of emergency, one drop of a one per cent. solution may be placed on the tongue, or inside the upper lip when the patient is in an unconscious condition. Its effects are immediately observed, by its property of relieving spasm; which it certainly does to a remarkable degree. Its effects are immediately manifested by the capillaries carrying more blood than they had done before its administration; the radial pulsation grows fuller, freer and more rapid; and there appears an increased warmth of the extremities. An overdose of it produces giddiness, weakened vision, headache, with throbbing in the temples, a sense of weariness, sleepiness, and severe pain in the cardiac region, with unusual trembling. Since the introduction of nitroglycerine in therapeutics, I have not had an opportunity of testing its virtues in puerperal eclampsia; although my observations of its *modus operandi* as a nervous stimulant and a remedy in some other affections especially those of a spasmodic character, have been quite satisfactory.

So far as the treatment of puerperal eclampsia is concerned, there has been no particular improvement for centuries; the lancet enjoyed the lead for more than 2000 years, and still holds an enviable position, while opium, chloral, the bromides, aconite, gelsemium, nitro-glycerine and veratrum all are entitled to credit.

My favorite remedy in puerperal eclampsia for more than thirty years has been veratrum viride, in sedative doses (Norwood's tincture), administering from a half to one teaspoonful, in a small quantity of water, every half hour or hour, until the desired effect is produced, seldom having to give more than two or three doses. Veratrum belongs to the family *liliaceæ*, and there are eight or nine species indigenous to Europe, Russia, Asia and North America. The veratrum viride of Aiton is considered to be a variety of veratrum album. The various species are to be found in the following localities.

1st. Veratrum album, Linnæus, Europe to Siberia.

2nd. Veratrum stamineum, Maxim, Japan.

3rd. Veratrum fimbriatum, Asa Gray, California.

4th. Veratrum nigrum, Linnæus, Europe to Manchooria.

5th. Veratrum mackii, Regel, Siberia to Japan.

6th. Veratrum intermedii, Chapman, Florida.

7th. Veratrum maximowiczii, Baker, Japan.

8th. Veratrum woodii, Robbins, Eastern States of North America.

9th. Is a doubtful one, Berntram and Hockernot recognizing the veratrum parviflorum of Michaux; these authors having referred it to the genus *melanthium*. All of the species have more or less acrid and poisonous properties, and all are used medicinally in regular or domestic practice. Dr. W. W. Bryant, Professor of the Principles and Practice of Medicine in the Ensworth Medical College, St. Joseph, Mo., says that veratrum justly holds an important place as a therapeutic agent. In many cases it will supersede the lancet, as no convulsions can occur or continue with a pulse below sixty; but to be of real benefit it must be given in doses sufficient to produce a sedative action on the heart at once.

THE THERAPEUTIC ACTION OF SALOPHEN.

By EDMUND KOCK, M. M.

[Inaugural Dissertation Presented to the University of Freiburg.]

SALOPHEN was employed at the Medical University of Freiburg, which is under the direction of Prof. Thomas, in a large variety of diseases. Prof. Thomas had the kindness to place under my charge the experiments with this remedy and to permit me to publish the results in an inaugural dissertation, for which I desire to express my heartiest thanks.

Availing myself of the reports of Drs. Guttmann and Froelich, I employed salophen especially in rheumatic affections, acute and chronic joint and muscular rheumatism, as well as in nervous disorders of the most varied kinds. The antipyretic powers of the remedy could not be adequately tested, as a sufficient number of febrile affections did not come under observation. Its antiseptic and disinfectant qualities, which the above mentioned authors had found to be only slightly developed, were not investigated, since more effective means for this purpose are at our disposal.

A larger number of cases than are reported in the following pages were treated; but many proved unsuitable for treatment with salophen, since more exact observation of the disease and its course led to a change of diagnosis, while some patients failed to return, or could not be kept under observation because they lived outside the city.

Examinations of the urine were made in a large number of instances, especially for the purpose of determining the amount of the remedy absorbed. The size of the doses administered is stated in every one of the observations.

(*a*) ACUTE ARTICULAR AND MUSCULAR RHEUMATISM.

Observation 1.—J. M., aged 19, domestic, had long been under treatment for marked chlorosis. July 9th, she suddenly developed violent pains in the right shoulder joint. The pains were evoked by movements or touching of the parts, and we are therefore justified to make a diagnosis of acute rheumatism of the shoulder joint. Salicylic acid was first administered, and July 11th, the patient was given four grammes salophen, and ordered to take two grammes on the same and two grammes on the following day. On her return, July 13th, the pains were less severe, and the remedy was continued in two gramme doses per day. July 17th, the pains had completely disappeared, and the joint was again moveable. Salophen was discontinued, and the treatment of her chlorosis resumed.

Observation 2.—F. K., aged 49, mason, under treatment since 1883 for emphysema and chronic bronchitis. In 1885, treated for ulcers on back. Later, suffered from acute muscular rheumatism, for which salicylate of soda was given. July 15th, after a wetting through of body, experienced severe, darting pains in the muscles of the left lumbar region. In this locality, spontaneous painfulness, as well as pain on motion or pressure, existed, that is, muscular rheumatism. Locally a mustard plaster was applied, and two grammes of salophen were administered on the same day, and a like quantity on the following day. On his

return, on the third day, the pains were much less severe, and, after another dose of salophen, disappeared completely.

Observation 3.—M. F., aged 16, shop girl; previous health good; during last years had suffered from marked chlorosis; has never menstruated and suffers severe headaches. During July, 1891, contracted a rheumatic affection of the left knee joint. Three days ago (July 24, 1892), was attacked again by severe headaches and pains in same joint, which became so violent that she was compelled to seek the bed. On examination, July 27th, the joint was found somewhat swollen; the entire region, especially at the back of the joint, was hot and red and painful. Temperature 38.2° C. Salophen three grammes ordered in doses of one-half grammes. July 28th, pains in joint much relieved, although headache persisted. Temperature 35.7° C. July 29th, swelling has entirely disappeared, as well as the redness; pain subsiding and headache much less severe. August 1st, the pains in the knee joint have disappeared, so that patient is able to walk about the room. Salophen discontinued and the chlorosis, which is evidently cause of the headaches, treated.

Observation 4.—K. U., aged 39, servant maid, presented at Polyclinic August 18th. She had suffered for about one week from pains in the left elbow and wrist joints. At these places some swelling is still perceptible; mobility is much interfered with on account of pains and swelling. Diagnosis: subacute articular rheumatism. Heart and other organs healthy. Salophen three grammes given, to be taken in doses of one-half gramme. August 22nd, pains greatly relieved, but swelling in left wrist joint persisted. Salophen continued. August 25th, improvement found to be considerable, on the 27th, pains have completely subsided, some swelling still persisting. Salophen discontinued, and a lotion ordered for removal of swelling.

Observation 5.—E. R., aged 17, laborer, was in hospital three weeks in 1891, for rheumatic affection of the arm, and later was treated for pharyngitis. Eight days ago he developed pains in the right elbow joint, which had only slightly improved. The joint is somewhat swollen and painful; the temperature somewhat elevated. The lungs are healthy, but the first heart sound slightly muffled and diffuse. Salophen administered in four powders, each of 1.5 grammes, two of which were to be taken on the same and the others on the following day. When seen on the second day temperature was found normal and pains in joint less severe. After further administration of three grammes, pains had completely subsided; by afternoon of the following day the cardiac trouble rapidly disappeared.

Observation 6.—J. H., aged 47, laborer, was attacked August 15th, by acute articular rheumatism, confined to the right leg. Salophen, three grammes *pro die* administered, together with application of chloroform liniment. August 18th, pains considerably relieved, and the remedy continued in same dose. August 20th, pains no longer present and patient discharged.

Observation 7.—H. B., business man, was seized at night with violent pains in both knee joints and in the right ankle joint. The affected joints reddened, movement very painful, and effusion present in both knee joints. Temperature 38.6° C. Diagnosis: Acute articular rheumatism, probably due to exposure to cold. No albumen in urine; heart sounds normal. Salophen administered, 4.5 grammes *pro die*. On following day pains greatly relieved; temperature almost normal. Salophen treatment continued for five days, 4.5 grammes daily. On the sixth day pains have entirely subsided, as well as the fever; mobility almost completely restored; the exudations nearly absorbed. Recourse now had to friction with liniment and massage.

(*b.*) CHRONIC ARTICULAR AND MUSCULAR RHEUMATISM AND ARTHRITIS DEFORMANS.

Observation 8.—T. K., aged 29, domestic, has been treated for lateral deviation and retroversion of uterus and fluor albus. Has been long under treatment at the Medical Clinic for chronic rheumatism of the feet, salicylate of soda and stimulating liniments being employed. July 13th, salophen, three grammes *pro die*, administered. During following days no improvement noted until July 24th, when patient states that pains are less severe. Salophen

continued without, however, effecting much improvement. July 28th, the remedy was discontinued.

Observation 9.—Anna B., aged 71, widow, had suffered for a long time from chronic articular rheumatism, especially of the left shoulder joint. July 21, salophen administered, three grammes *pro die*, together with baths, July 25th, no improvement noticeable; four grammes ordered daily. As the relief afforded is only slight the remedy is discontinued.

Observation 10.—M. S., aged 56, widow, since death of her husband has supported herself by washing and keeping a fruit stand. During the last few years she has been treated by Professor Wesner for chronic rheumatism in the joints and muscles of the arms and legs, as well as for fatty heart. Patient is very corpulent and extremely pale. The joints are thickened, deformed and their mobility impaired. She suffers from cardiac palpitation, dyspnœa and pains in the left side chest. The area of cardiac dullness is increased, the first sound somewhat prolonged and muffled. The pulse is intermittent, small and irregular. At present patient complains of pains in legs and arms, and especially of darting pains in the left region of neck, which have existed for eight days. In this region a swelling is found which covers an area of the breadth of two hands and is very painful. July 23rd, salophen, three grammes *pro die* prescribed, together with application of chloroform liniment to the swelling, and patient enjoined to keep herself warm. July 25th, she complains of sudden weakness, loss of appetite and a feeling of weight in stomach which she attributes to the remedy. Extreme pallor present. Salophen discontinued and urine accurately examined. the constituents of salophen were detected, but no albumen. I do not believe that the above symptoms are attributable to the drug. In the first place the dose was not sufficient to produce these disturbances, and in none of the cases treated by larger doses of salophen have I noted such effects. I would rather refer them all to the cardiac affection. The patient confessed that on July 24th, she had worked hard and then taken a long walk, and that on her return home she suffered from the above disturbances. She probably over-exerted her heart, as is shown by the great irregularity of the pulse which I was able to note during the following days. The administration of salophen was not resumed, but other measures were resorted to for relief pains and swelling of neck.

Observation 11.—A. B., aged 53, female, had suffered for ten years, from rheumatism in the arms and legs. The articulations of right arm were most markedly affected; both wrist joints, especially the right, presented the distortions and deformities observed in the high grades of arthritis deformans. The left ankle was also painful. Almost all the remedies in our possession for the treatment of rheumatism had been tried in vain. Recourse was therefore had to salophen, which was administered in doses of four grammes daily, in combination with baths and frictions. After two weeks' use of the remedy no sign of improvement was noted and it was, therefore, discontinued.

Observation 12.—J. M., aged 20, male, suffered from chronic articular rheumatism, and was treated for a week with salophen, 4.5 grammes *pro die*. As no improvement ensued at the end of this time the remedy was discontinued.

Observation 13.—F. G., aged 50, seamstress, was affected in her thirty-eighth year with acute articular rheumatism, which became chronic. She was treated in Strasburg, in the hospital at Freiburg, and in the Polyclinic with salicylate of soda, baths, faradic electricity. Marked arthritis deformans was present in the joints of the leg, and still more developed in those of the hand, incapacitating her entirely from work. Patient was very capricious and dissatisfied. She claimed that salicylate of soda disagreed with her and that electricity had had an injurious effect. It was with much reluctance that she agreed to follow the treatment prescribed for her, consisting of baths, friction with liniments, and the administration of salophen three grammes daily. On the following day she stated that she had derived no benefit from the remedy, as the pains were not diminished, and the day after she reported that the remedy affected her injuriously and refused to continue it. I

would not attach any weight to the statements of the patient.

Observation 14.—A. V., aged 21, domestic, had long attended the Polyclinic for treatment of chronic, articular and muscular pains. She complained especially of pains in the left hip and in the knee joints. After trying without success the customary remedies, salophen was tried in doses of 4.5 grammes *pro die*, in connection with applications of liniments. After weeks' treatment, no improvement manifested itself and the remedy was discontinued.

Observation 15.—J. G., aged 37, laborer, had suffered for a long time from emphysema and chronic bronchitis, as well as from chronic rheumatism in the arm joints, especially the left. Salophen was employed in a daily dose of 4.5 grammes. No improvement followed.

Observation 16.— F. W., aged 21, domestic, was treated in 1891 for articular rheumatism with salicylate of soda and embrocations. August 13, salophen four grammes *pro die* administered. August 15, slight improvement. Daily dose increased to 4.5 grammes. August 18, somewhat better. August 20, condition the same. As she was developing angena with fever, treatment was suspended and she was sent to the hospital.

Observation 17.—K. H., aged 75, widow, had been previously under treatment for anaemia and ciphalalgia for which antifebrin had been administered. Later she developed myocarditis and atheroma of the arteries, as well as emphysema and chronic bronchitis. She was also attacked by a rheumatic affection of the joints of the right arm. Salophen was prescribed, 4.5 grammes *pro die*, for a week and a half, but as no essential improvement ensued it was discontinued.

Observation 18.—M. K., aged 72, widow, was treated in 1880 for rheumatism and interostal neuralgia with salicylate of soda, wet cups, embrocations, etc. Later she was attacked by a rheumatic affection of the muscles of the back. All movements were painful. Galvanic electricity was uneffective and she derived no benefit from her sojourn in the hospital. Subsequently pains in legs developed, the joints being thickened, motion greatly impaired and very painful. August 12, salophen was administered in five gramme doses *pro die*, together with baths and embrocations. August 22d, no improvement. August 26th, slightly better. Salophen continued, but as it had little effect upon the pains it was given up.

(*c*) FEBRILE CONDITIONS.

Observation 19.—L. B., aged 59, widow, was attacked July 8th, by bronchitis attended with fever and pains. The bronchitis was treated by expectorants and inhalations, and the fever and pains by salophen, four grammes *pro die*. On the following day the temperature was reduced, but the pains were not relieved. After a second resort to salophen the fever had disappeared almost completely on the following day and the pains were considerably alleviated.

Observation 20.—St. Sch., aged 32, a married woman, had caught cold several days prior to her visit to Clinic and suffered from marked lancinating pains about the eyes and upper jaw, as well as from swelling of the entire left half of the face. She also had pains over the left supra-orbital nerve and headache. The temperature was elevated 38.3. She was given salophen, 1.5 grammes at 7 P. M., and at 9 P. M. the pains had entirely disappeared, the fever was considerably reduced and after another dose of one gramme salophen disappeared altogether.

(*d*) NERVOUS AFFECTIONS.

1. *Neuralgias.*

Observation 21.—E. K., aged 73, janitress, was attacked with herpes zoster in consequence of an intercostal neuralgia. She suffered from violent pains in the left of the spine and radiating forward. Salophen, three grammes *pro die*, was administered. At her next visit, two days later, pains were greatly relieved, and disappeared almost completely after a second dose of salophen.

Observation 22.—L. G., aged 26, domestic has been several times under treatment for angina and laryngitis. July 18, she again was seized with pains in the neck and right side of chest, especially in breathing. No cough present; catarrh of pharynx and larynx. Lungs and plura normal. Diagnosis of pleurodynia made and salophen, two grammes

pro die, administered. Pains were greatly alleviated and after a second dose of one gramme vanished completely.

Observation 23.—F. M., aged 24, domestic, had been previously treated for anæmia. July 8, was treated for pleurodynia with salophen, two grammes *pro die*, and two days later pains nearly gone.

Observation 24.—F. M., aged 28, cook, had been previously under treatment for anæmia. Complained for some time of pains in the feet of lancinating, boring character, extending upward from the ankles to the knee joints. The feet sometimes swollen. Internal organs normal. As rheumatism can be excluded, the pains must be regarded of neuralgic muscular character, the more so as patient states that they become marked in the evening, after being on her feet for a long time, or after much physical exertion. The neuralgia seems to be due to the anæmia, which is therefore made the chief point in treatment. Locally, embrocations, with massage of the leg muscles, are employed. Salophen is prescribed for the pains but with but little success. Afterward, slow improvement.

2. Neuritis.

Observation 25.—A. M., aged 53, laborer, treated in 1883 for rheumatism of the left arm, especially of the wrist and shoulder joints. In 1892, a severe neuritis of the left forearm appeared, attended with pains radiating along the course of the branches of the radial nerve as far as the shoulder. At the same time, there developed upon the extensor side of the left forearm a herpes corresponding to the superficial branch of the radial nerve. This disappeared under the customary treatment, the pains being treated by salicylate of soda, and, later, by antipyrine. The pains were relieved, but failed to disappear completely. They lost their violent lancinating character, but persisted in form of paræsthesia (formication, etc.). In July, salophen, four grammes *pro die*, was resorted to. The remedy alleviated the pains to a certain extent, but, even after its continued administration for some time, permanent relief could not be effected. The pains persisted in spite of salophen, combined with application of liniment and faradization. Salophen was discontinued and antifebrin, but with very slight success.

3. Cephalalgia.

Observation 26.—H. T., aged 30, widow, suffers from a vaso-motor neurosis of the fingers and constant headache. The latter was relieved by salophen, one gramme *pro die*, although not permanently. A one gramme dose of salophen always causes complete disappearance of pains for the corresponding day.

Observation 27.—M. K., aged 49, cook, has been under treatment for a number of years for constant headaches, probably connected with the menopause. Salicylate of soda, antipyrine and phenacetine afforded only temporary relief. Salophen was administered in daily doses of one gramme, and, two days later, patient reported that pains were less marked.

Observation 28.—J. H., aged 65, widow, has been treated with phenacetine for obstinate headaches on the right side. Salophen was then tried, two powders, each 1.5 grammes being given, with directions to take one powder daily in two doses. Under the use of the remedy the pains disappeared, but recurred later.

Observation 29.—K. H., domestic, has been long under treatment for chlorosis. An anæmic systolic murmur is heard at the apex of the heart. She also complains of headaches. Iron prescribed and for the pains, salophen, 1.5 grammes *pro die*. After three such doses considerable improvement.

Observation 30.—O. K., aged 35 domestic, treated two years ago for otitis media and also for adenoid vegetations in the naso-pharynx. Suffers also from anæmia, menorrhagia and headaches. For the menorrhagia, extr. hydrastis canadensis was given; for the headaches, salophen, 1.5 grammes *pro die*. After two days administration pains considerably relieved, but not entirely absent. Salophen is continued and always has good effect on the headaches, although it does not cause their entire disappearance.

Observation 31.—R. G., aged 21, domestic, has been under treatment since 1889 for chlorosis and headaches and other disorders resulting therefrom. The headaches appear in the form of hemicrania, and have been treated with caf-

feine. Salophen was also administered but without positive results.

These observations may be supplemented by experiments made by the the writer on himself and on acquaintances suffering from headache. The writer took salophen on two occasions in single doses of seventy-five centigrammes. The effect always ensued promptly in the course of the following thirty minutes. The same was observed among his acquaintances. In one case only when he gave 1.5 grammes the pains persisted without noteworthy relief. Observation 20, may also be referred to here where the remedy rapidly and favorably influenced the headache.

4. Odontalgia.

Observation 32.—R. J., aged 19, domestic, came to Polyclinic July 18th, for treatment of pains from a carious tooth. As she refused to have it extracted, salicylate of soda was administered for relief of pains and with temporarily good effect. Some time after she returned suffering from pains in the same tooth and was given salophen 1.5 grammes, to be taken in the course of the day. She took the powder at 9 P.M., and soon after the pains abated, so that she was able to sleep. They recommenced on waking in the morning with so much violence that she consented to the extraction of the tooth.

Observation 33.—M. K., aged 21, domestic, has had several teeth extracted for caries. July 20, she presented herself with caries of the left upper molar. Salophen one gramme at night was prescribed for the pains, which were relieved by the remedy. On the following, another dose of one gramme was given, and patient did not return until August 5, when she consented to have the tooth drawn.

Observation 34.—M. G., frequently under treatment for caries, received 1.5 grammes salophen for the toothache. Pains rapidly relieved, but effect was of short duration and the tooth had to be extracted.

Observation 35.—M. T., aged 24, consulted the Polyclinic for caries. An attempt to extract the tooth was unsuccessful on account of the difficulty to grasp it and the restlessness and fear of the patient. She was told to come the following day, but to secure rest at night was given salophen 1.5 grammes which quieted the pains.

OTHER PAINFUL AFFECTIONS.

Observation 36.—L. B., domestic, suffers from chlorosis and chronic pharyngitis and laryngitis. Complains of pains on the left side of the body, extending from the gastric region backward and upward. As the pains appeared to be neuralgic, salophen was administered for some time in doses of three grammes daily, but without much effect. Later it was found that the pains were due to gastric catarrh, being especially marked after meals, and were relieved by washing out the stomach and other appropriate measures.

Observation 37.—T. H., aged 24, domestic, suffered in July from cholithiasis and was treated in the hospital. Later was treated at the Polyclinic, with the customary remedies and dietetic regulations, and as she still complained of pains, salophen, three grammes *pro die*, was prescribed with good results.

Observation 38.—T. K., female, aged 72, had an attack of apoplexy July 27, and was unconscious the entire day. There were no sequelæ, but the left foot began to swell and become painful. Patient was very emaciated and presented marked arterial sclerosis. Area of cardiac dullness somewhat enlarged, the first sound muffled and prolonged, the other sounds normal. Pulse full, regular, 108 beats to the minute. Some emphysema; marked varicis on both legs. At the dorsum of left foot a doughy, œdematous swelling, beginning at the toes and extending to the ankles, well-defined on both sides. The skin over swelling very tense and painful, and in some places raised up in blisters. Diagnosis: Commencing gangrene; rest in bed, careful diet, abstinence from alcoholic drinks ordered; gangrene, treated by elevation of upper part of body and applications of lead water. For the pains salophen one-half gramme four times daily was administered. The pains were relieved and disappeared in a few days. The swelling of foot persisted for about two weeks, then gradually receded, without development of gangrene.

Observation 39.—B. D., had sustained subluxation of the right wrist and com-

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plains of pain in this region. As effusion unto the joint was still present a firm bandage was applied, and the joint kept at rest. For the pains salophen, three grammes *pro die*, was given, and after two days complete disappearance had occurred.

Observation 40.—F.F., barber, suffered from pains over margin of the ribs on right side two days after a fall. The pains were especially marked during breathing and while stooping, and when pressure was made. They were probably due to laceration or stretching of the broad muscles of the abdomen. Wet cups were applied, a liniment rubbed in, and the patient ordered to keep quiet. Salophen, 1.05 grammes *pro die*, was given for the pains. Two days later the latter were still present, but much less severe and could only be elicited by pressure, or shaking of the body as by sneezing. The following day they had completely disappeared.

If we compare the above results we find that salophen proved most efficient in acute articular rheumatism, where it rapidly and promptly removed the pains, fever and swelling within a short time. We have met with no case where it failed to act. In efficacy it is almost equal to salicylic acid, over which it has the advantages of not possessing a disagreeable taste, and of not being attended by the disturbances so frequently observed during administration of salicylic acid, which so often neutralize the good effects of the remedy. Doses of 3.5 grammes salophen *pro die* are amply sufficient in the less severe cases. I am also able to confirm the statement of Dr. Guttmann that the more recent the case the more certain will be the effect.

Although in acute articular rheumatism the results from the use of salophen were very favorable, they were inconsiderable in chronic rheumatism and arthrites deformans. Occasionally it effected some relief of the pains, but permanent improvement was never observed.

As regard the antipyretic effects of the remedy I am unable to give a decision. In the two cases reported, where a high temperature existed, it quite rapidly reduced the fever. At any rate, it may also be tried in cases of fever.

Salophen appeared extremely effective in nervous affections of the most diverse character. In these troubles it acted even in small doses, 0.75-2 grammes with great rapidity in most cases, removing, or at least, relieving the pain. In neuralgias it seems an excellent remedy and may be tried as a substitute for other nervines, such as, antipyrine, phenacetine, acetanilide. In minor nervous affections, such as headache, toothache, etc., it is also indicated. These observations I find confirmed in an article by Dr. M. Caminer* of Elberfeld, which came to my notice after conclusion of my experiments. This observer also tried salophen in various nervous troubles, such as habitual headache, trigeminal neuralgia, sciatica, hemicrania. His conclusion is that salophen is a prompt analgesic in various neuroses, and that no toxic effects were noted in any of the cases observed by him.

As above stated I have not investigated the antiseptic and disinfectant action of salophen.

If in brief I formulate my conclusions the following may be said:

In acute articular rheumatism salophen has specific effect almost as marked as that of salicylic acid.

In chronic articular rheumatism it is less effective, but may be employed as substitute for other remedies, since it relieves the pains, at least at the beginning of its administration.

In the most diverse nervous disorders it exhibits an excellent analgesic effect.

Disagreeable after-effects are never seen in doses of 3.5 grammes, which are amply sufficient.

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*Observations on the Use of Salophen. Therap. Monatsh., Oct., 1892.

The tablet-triturate form of preparing medicines bids fair to do away in a large measure with the physician's dependence on the drug store. The physician can now prescribe at the bedside or at the office in the most palatable and accurate form for almost any ailment without recourse to outside sources. This will shortly settle the voracious counter-prescribing question.—*Kansas Med. Jour.*

The Times and Register.

A Weekly Journal for Medicine and Surgery.

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ON CHOLERA, WITH REFERENCE TO THE RECENT EPIDEMIC IN HAMBURG.[1]

MAX VON PETTENKOFER holds the opinion that for an infection with cholera three conditions must be fulfilled: 1, the presence of a specific germ spread by human travels; 2, a disposition of the individual, and 3, a local disposition depending on the soil, the ground-water, the time, etc. The first two points are recognized by everybody as the essential conditions; the third point however is not recognized as a condition for an individual infection, but only of some importance in the development of an epidemic. Pettenkofer, however, believes that the local immunity, be it absolute or only temporary, means in the same time immunity of the individual living in this locality. The fact that Munich was free from cholera this year, notwithstanding the great traffic between Munich and Hamburg and Paris, induced von P. to make a rather heroic experiment on himself which should prove the validity and importance of his third condition.

He got a pure culture of the cholera bacilli from Gaffky in Hamburg, and swallowed one cubic centimeter of a fresh bouillon culture about two hours after a light breakfast, taking care to neutralize the acidity of the stomach by a dose of fifteen grains of bicarbonate of sodium. He thus introduced millions of bacilli. He lived on quite a liberal diet without avoiding fruit, cucumber, etc. With the exception of frequent thin and afterwards watery discharges within the next week there were no symptoms of disease. The stools were examined; it was proved that the cholera bacilli had found a good soil for multiplication. On the seventh day the stools were normal and the cholera bacilli were rare; on the ninth day no bacilli could be cultivated.

Several days afterwards, Prof. Emmerich swallowed 0.1 ccm. of a rich bouillon (twenty-four hours old), together with fifteen grains of bicarbonate of sodium dissolved in 100 grammes of water. He even risked several indiscretions in diet, and exposed himself to cold. Like von P., he had no other symptoms but looseness of the bowel for about a week. Comma bacilli were present from the second to the twelfth day; a pure culture of them was found in the watery stools of the third day.

Von Pettenkofer quotes the absolutely identical results which Prof. Bouchard had got when making experiments on rabbits with discharges of cholera patients (stool and urine), and with pure cultures of cholera bacilli. He found that the discharges produced invariably symptoms of cholera (vomiting and diarrhœa, cyanosis, cramps, fall of temperature, narrow pupils), whereas the culture did not have this effect. Von P. comes to the conclusion that the comma bacil-

[1] Munchener Med. Wochenscrift 46192.

lus does not create the cholera-poison, unless the bowels contain a substance, the existence of which coincides with his third (localistic) condition. The history of numerous epidemics makes von P. believe that the presence of this unknown substance depends on the soil and on the atmospheric conditions of the place where the epidemic develops. Cholera epidemics increase when the ground-water is low, and as soon as a heavy rain comes, the epidemic is at an end; this holds both for winter and for summer. The results obtained by the improvement of the sewerage in Fort William, near Calcutta, and in many other exposed places, make it evident enough that a place can be made immune by proper sanitary arrangements. Hamburg shows that every attempt of disinfection is useless if the sewerage is not perfect. The tide was allowed to carry part of the contents of the sewage canal to the place where the town gets its water-supply from the Elbe. Therefore the epidemic was quite the same as any other epidemic had been without antiseptic precautions; the great amount of money and trouble had better been used for the improvement of the canalisation.

Most of the readers know the defects of von P.'s ground-water theory and will recognize at once the fallacies in his argumentation, based on his experiment. I wish to make only a few remarks. The experiment shows, together with the results of Prof. Bouchard, that the discovery of the comma bacillus was merely a step further in the knowledge of cholera; many important questions are not answered yet by the microbiologist. In the meantime we must admit as a matter of experience that the perfect organization of the sewerage of the human dwelling places ought to be such that a place can be considered to be immune enough not to depend too much on quarantine and similar insufficient measures. This holds as well for typhoid fever.

Quarantine has to be handled so that no danger arises for those who are kept in quarantine; for quarantine we must require places made immune. If the government fails to provide for the safety of those kept in quarantine it has to be made responsible for every case of infection which takes place after the quarantine station is reached.

The personal disinfection has to be handled just as in typhoid fever; it must be done carefully in its place. The fumigation and such disinfection as is commonly used for the luggage, etc., is absolutely insufficient and ridiculous, and the trouble and expense for the government and the nuisance for the travelers is quite out of proportion to the actual use and necessity. The only party that has a benefit in the whole business is the furnishers of the "antiseptic" material.

The experiment of von Pettenkofer must not be taken as a sign of discredit to men like Koch; but it ought to increase the feeling in the practitioner that the far-bearing epidemiological questions cannot be decided in laboratories, but that the carefully observing and critical mind of the practitioner can do much to advance our knowledge by accurate records on causes of infections. We have, however, always to bear in mind the fact that only in very few cases of infectious disease can we find facts (not merely suggestions or opinions) which lead us on the right track. But if these cases are scarce, they do credit to him who finds them out.

DR. AD. MEYER.
470 W. MADISON ST., CHICAGO.

Dr. E. L. Klopp, of Oak Lane, Pa., was shot by a burglar one night last week. The circumstances appear to indicate that the burglar was an amateur. The wound is quite serious, necessitating the Doctor's removal to the Jewish Hospital. Dr. Klopp graduated at Jefferson College, in 1889.

Letters to the Editor.

Bureau of Information.

Questions on all subjects relating to medicine will be received, assigned to the member of our staff best capable of advising in each case, and answered by return mail.

When desired, the letters will be printed in the next issue of the Journal, and advice from our readers requested. The privileges of this Bureau are necessarily limited to our subscribers. Address all queries to

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PRURITUS HIEMALIS.

AS a subscriber to, and a constant reader of, the TIMES AND REGISTER (which is, in my estimation, the best "all-round" medical journal published in the United States), I take the liberty of presenting a case and asking your opinion and suggestions as to its treatment, etc., through the columns of the journal. At my request the patient has written out a statement of his case; which is, to say the least, somewhat peculiar. The papules do not project above the skin. They appear to be about the size of mustard seed and are *just under* the skin. He does not suffer at all in summer when his skin is naturally active. He suffers in cold weather only; and the trouble is greatly aggravated by constipation.

The gentleman is a man of intelligence, has been a prescription druggist in the city of Memphis for a number of years, and has consulted and been treated by the best physicians in that city. I will be under many obligations and appreciate highly your advice. Long live the TIMES AND REGISTER and its talented editor.

THOS. G. BREWER, M. D.,
OSCEOLA, ARK.

The following is the patient's account of his case:

January 12, 1893.

"In the fall of 1862, while in the army, the disease first made its appearance on both legs; afterwards the thighs and arms were involved. During the summer time I have no trouble with it, but as soon as frost comes on, it makes its appearance with very dry and harsh skin, and little clumps of nodules under the skin; itching intolerably, especially when clothing has been removed at bedtime. There has never been any discharge from the itching surface but once, during the late winter and early spring of 1863. The left leg from the knee to the ankle was then covered with a thick scab, which hung on the hair like a shield, and was detached from the skin and kept moist by a watery discharge. I was entirely relieved of that by the first of May, by applications of laudanum made double strength. I never have been afflicted in that way since, but the other symptoms have returned every fall up to date.

The next treatment possible to try was in the fall of 1864; since when I have persistently used every remedy, including Fowler's and Donovan's solutions of arsenic, sulphur internally and externally, balsam Peru, picric acid, aristol, etc., etc. An ointment of aristol in oil of sweet almonds or lanoline gives relief, but does not cure. My general health is excellent, and I only suffer from constipation, from torpidity of the lower bowel. When I am constipated, the itching is much worse; the juice of one lemon generally starts my bowels, and relieves the skin trouble very much, but never entirely. During a warm spell in winter, when the perspiration sets in, the disease disappears. I am of temperate habits, don't take liquor more than once or twice in a month, and never over a tablespoonful at a time. I am not very temperate in the use of tobacco; have been a constant smoker for thirty-five years. I am now fifty-four years old, and lead a sedentary life; being forced to it by the loss of a limb. At present I am suffering very much from the skin trouble. Grease, or too frequent bathing, aggravates it.

[Pruritus Hiemalis is not easily removed. A sedentary man should avoid the use of rich food, coffee, alcohol and condiments. Fruit and vegetables should form the bulk of the diet. Such exercise as is possible should be regularly taken. Bran baths, tepid, should be taken every two days, with borax instead of soap. Sometimes woollens cause irritation, and if so, chamois skin, linen or silk should be next to the skin. Locally, ointments of thymol, menthol, carbolic acid, benzoin, aristol, europhen, or, better than any, probably, losophan in lanoline or petrolatum. Dusting with bismuth or Fehr's talcum powder sometimes relieves promptly. The constipation must be removed, and the best single remedy is aloes. I would begin with salicylate of soda (purified only) internally, gr. xx

daily, with losophan, gr. x, in lanoline, ʒj, locally, and an aloes and rhubarb pill at breakfast. Give this two weeks' trial before changing. Carbolic acid, soda sulphate, colchicum and pilocarpine internally should be tried successively if the first fail.—ED. T. & R.]

SALICYLATE OF AMMONIA IN TYPHOID FEVER.

IN a number of your excellent Journal, Oct. 22, 1892, you did me the honor to publish an article from my pen on the treatment of typhoid fever by the use of the salicylates of ammonia, bismuth and soda. I stated that by the use of these remedies, typhoid fever could be limited to a duration of fifteen to seventeen days with all of the bad features of the disease eliminated. Since then I have treated five cases with the same happy termination. I visited three cases once every other day, averaging eight visits to each of the cases. I firmly believe that I could have treated them just as successfully with half the number of visits; with a good nurse to give the medicines and to make use of the thermometer every three hours, a physician need only to examine the daily record of temperature and to inquire about other necessary matters in order to intelligently prescribe for, without visiting his patient. I have stated it pretty strongly, but nevertheless it is as true as gospel. Under the plan of treatment as outlined in the article, you can dispense with cold baths, turpentine emulsions, abdominal cataplasmata, etc., etc.

In a few words, a physician can prescribe for his patient, dismiss all anxiety and go to bed and sleep soundly, without being disturbed by the midnight call to go and see Mr. A., who is a great deal worse, etc.

Lest I should be misunderstood, these remarks refer to cases that we see from the beginning and not to those cases that are seen for the first time after the severe symptoms have fully developed. Still this is the best treatment, but will not save all, as no treatment could. All treatment must embrace three factors, viz., germicides, toxicides and eliminants; germicides, to destroy the bacillus typhosus; toxicides to neutralize the toxines, and eliminants to carry off the deleterious products.

As to germicides, the salicylates are the best, as the experience of a number of medical men attest. I have a theory as to their action that may be a mere fancy. It seems to be well settled that the bacilli of typhoid fever produce a poisonous *alkaloidal* ptomaine, called *typhotoxin*, that enters the circulation and, "The life of all his blood is touched corruptibly." Here is the theory: the salicylate of ammonia enters the circulation by solution and absorption, it meets the alkaloidal typhotoxin, gives up its salicylic acid to the poison. The acid enters into chemical combination with the typhotoxin and forms a non-poisonous salt, the salicylate of typhotoxin, which is eliminated through the skin and kidneys. So can be explained the beneficial effects of citric acid in the form of lemonade, in changing the red tongue into a pale natural looking organ, forming the citrate of typhotoxin. I believe, however, that the salicylate of ammonia not only neutralizes the ptomaine, but that it inhibits the growth of the bacilli. The salicylate of bismuth, being insoluble in the alimentary canal, destroys all deleterious organisms as it passes along, and as it reaches the inflamed and ulcerated Peyer's patches, it acts there and exerts its germicide properties upon the bacilli *in loco*.

As to eliminants, they should embrace those remedies that act upon the skin and kidneys, and possibly the liver. The skin and kidneys are the principal emunctories through which we hope to eliminate the toxic products of the disease. The salicylate of soda and acetanilid are sufficient, and also the best. But it is best to combine germicidse, toxicides and eliminants together, as in the following prescription:

℞.—Ammoniæ salicylatis . . . ʒi
Sodæ salicylatis . . . . .
Acetanilid . . . . . aa ʒ ss

M.—Et ft. chart. xii. Sig.—Give a powder every three hours in an ounce of hot water.

This combination will produce a gentle, warm diaphoresis, and will keep the temperature in reasonable limits. In case the temperature rises to 104°, a five grain dose of acetanilid will soon bring it down. I think that large antithermic doses of the coal tar derivatives should be avoided. The salicylate of bismuth can be given

in five grain doses, three to four times daily. Under the above treatment, I have not met with a single case of diarrhœa; no tympanites; no red tongue or sordes; no delirium, low or high; in short, all the bad features of the disease were conspicuous by their absence.

D. M. BARKLEY, M. D.

CASEYVILLE, KY.

NEUROSIS NUMBER WANTED.

I AM fully convinced that you have inaugurated a plan in editing your valuable journal, that has and will continue to meet the approval of all who desire the best and latest information, on the management and treatment of special diseases, as given in your journal devoted to one subject almost entirely. I have just finished reading the last number on Tuberculosis, and found much to my interest, in fact I have enjoyed all your special numbers (as well as the others), and will have them bound for future reference. I hope you will continue to make every other number a special one, knowing that the intervening ones will be replete with good, wholesome, general information. By your permission, I would like to suggest a subject, not that I have anything much to report, but for the sake of gaining information. The study of the brain is becoming a topic of much interest, and so many new ideas have been broached recently that I would suggest progressive paresis, spinal sclerosis, or any subject which will throw light on intra-cranial lesions with occlusion, either by thrombosis or embolism, of vessels, producing symptoms of aphasia amnesia, ataxia, etc., and the treatment of such troubles. I would very much like to hear from your contributors on this subject.

I know this is a subject surrounded with much obscurity; coming under the head of neurotic troubles, embracing vague symptoms, and which the laity know less about than any other subject you have given us. Typhoid and scarlet fevers, pneumonia, any intelligent doctor can treat successfully from the knowledge he has gained at college and from experience. Whenever I see anything signed "W. F. W." I am sure to read it, as that name recalls many happy hours spent with the writer, and I feel certain of learning something to my interest.

GEO. B. SIMPSON, M.D.

WESTON, W. VA.

[Dr. Simpson is right in his suggestion that a special number should be devoted to nervous affections, and we will at once proceed to collect materials. It would be a great aid to us if our readers were to write to us the questions they would like to have answered in this number.]

I WOULD like very much if you would publish a special number on dyspepsia; also one on diseases of the heart, both functional and organic, and their treatment.

L. C. LAYCOCK, M. D.

DECATUR, OHIO.

Society Notes.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON ORTHOPÆDIC SURGERY.

[Stated Meeting, December 16, 1892.—Henry Ling Taylor, M. D. *Chairman.*]

A CASE OF CONGENITAL CLUB-FOOT SHOWING VERY LITTLE EQUINUS.

DR. ROYAL WHITMAN exhibited for Dr. Townsend a case of congenital club-foot, which was interesting, because there was so much more varus than equinus present. Apparently, the club-foot was originally not very severe, but, having been entirely untreated, there had been a moderate increase in the deformity, with atrophy of the foot. The deformity would probably yield easily under forcible correction with division of the tendons.

Dr. Halstead Myers said the case was a good illustration of the fact that when one corrects the varus, the equinus becomes more prominent; in other words, that when the foot is in the position which it occupies in this boy, with the toes flexed, and the foot adducted, the equinus does not appear so great as it really is.

Dr. A. B. Judson commented upon the remarkable development of the calf muscles, in view of the fact that he had gone so long a time untreated. He thought that if the foot could be held around mechanically, so that the callosities on the outer border would disappear the boy would probably walk with greater facility.

The Chairman said that the doubling under of the outer toes, and the falling together of the anterior part of the foot, were rather unusual features. In his opinion, mechanical treatment would be sufficient to reduce the deformity, without a resort to cutting operations.

POTT'S DISEASE SIMULATING LATERAL CURVATURE.

Dr. R. H. Sayre exhibited a young girl whom he had seen yesterday for the first time. The case, at first sight, looked like one of ordinary lateral curvature, and, indeed, not long ago, according to the mother's statement, this was the diagnosis made at one of the orthopædic institutions in this city; but closer investigation showed a kyphos at the sixth dorsal vertebra. Six months ago, she fell out of a hammock, and struck on the left side. Three months later, she began to have pain under the sixth rib, in the left mamary line, whenever the heels struck the ground forcibly, or when she was jolted in the cars, or when coughing or hiccoughing. The mother thinks this "knuckle" in the back was not so prominent at the time the diagnosis of lateral curvature was made. In most cases of Pott's disease, the diagnosis is reasonably clear, but occasionally one meets with a case like this one, in which two or three very critical examinations are necessary before a positive diagnosis can be made.

Dr. V. P. Gibney presented a boy, fourteen years of age, as an illustration of the effect of over-correction in congenital club-foot. He first came to the Hospital for Ruptured and Crippled, when quite a baby, and was treated according to the plan then in vogue, with a side splint bandaged to the outer side of the foot and leg, with the object of favoring extension of the foot. About one year later, the tendo achillis was divided in order to overcome the varus. He was not seen again until four or five years ago, when he showed a slight relapse, there being some shortening of the tendo achillis and the plantar fascia, and a disposition to walk on the outer side of the foot. Under an anæsthetic, the foot was twisted into an over-corrected, position and plaster of Paris applied and allowed to remain on for some months, when it was necessary to repeat the operation. The heel cord and the plantar fascia were operated upon at the same time. He was not seen after this operation until a week or two ago, when he returned, complaining of a feeling of fatigue on walking, and of a slight pain in the metatarsus. Examination showed the tendo achillis to be lengthened, and a moderate degree of flat-foot to be present. This case and the one recently presented by Dr. Whitman, showed the fallacy of the prevailing opinion that it is hardly possible to over-correct a case of club-foot.

Dr. R. H. Sayre did not think the patient had a flat-foot but a decided valgus, with marked shortening of the peroneal tendons. It looked to him as if the arch had not been sufficiently lengthened and that too long a splice had been made in the tendo achillis, so that there was not sufficient contractile power left in the hamstring muscle to properly elevate the heel.

Dr. A. M. Phelps said that the tendo achillis was undoubtedly too long, but as he could not detect any motion in the gastrocnemius and solsus muscles, he was inclined to think it was a case of non-union of tendons.

The Chairman thought the case illustrated the danger of doing the operation on the heel-cord and on the plantar fascia at the same time. If the heel cord be preserved until after division of the plantar fascia, the operator has a fixed point from which to work upon the latter.

Dr. Gibney said that when the case relapsed, an attempt was made to produce over-correction, but it was found necessary to divide the cicatrices about the tendo achillis. He did not think Dr. Phelps could demonstrate that this was a case of congenital paralytic equino-varus; the position of the heel and lengthening of the heel cord were sufficient to explain the position of the foot without supposing the existence of any paralysis

Dr. E. D. Fisher, present by invitation, remarked that the general appearance of the case did not favor the theory that there was any sensory paralysis.

INFANTILE PARALYSIS.—ANASTOMOSIS OF TENDON.

Dr. Parrish, present by invitation, exhib-

ited a patient on whom he had performed this novel operation. It had occurred to him that a more useful limb might result from artificially uniting the tendon of the paralyzed muscle to that of some live neighbor, in cases of infantile paralysis, and it was only a few days ago that he had learned that was not the first case upon which the operation had been done. The operation was first performed by him on May 15, 1892, an incision being made in the space between the tendons of the extensor pollicis and the anterior tibial muscle, and these tendons then united by catgut. The foot was placed in a position of inversion, with slight extension, and a plaster of Paris dressing applied. Before the operation, there was a dropping of the arch of the foot; after the operation, the child had another acute attack of infantile paralysis which affected the posterior tibial muscle. A second operation was therefore done on November 20th, last, and the plaster dressing which was then applied, was not removed until two days ago. In this second operation, the sheath of the gastrocnemius and the tibialis posticus were cut open, the tendon scraped for a distance of about one inch, and then the two united by a catgut suture. The wound was then closed by suture, without drainage. The child is already able to walk much better than before these operations, but it is possible that another operation upon the anterior tibial will be required. The treatment now will consist in breaking up all adhesions, and exercising the muscles.

Dr. R. H. Sayre said that last spring, while looking at some of these cases of flat-foot, Dr. Parrish suggested the propriety of attaching some live muscle to the dead tendon of the tibialis posticus. The idea struck him at the time as a most excellent one, and he was glad that this first case had been distinctly benefited by this treatment. It was unfortunate that after the first operation, the child should have had another attack of infantile paralysis, and this seemed to him to be largely responsible for the imperfect result of the first operation. After the first operation, the arch of the foot was well supported but there was a marked eversion, and it was for this that the second operation was done. Two weeks ago, he had himself performed the anterior operation on a girl about fourteen years of age, and he hoped to report upon her case at some future meeting. He then referred to two cases in which a similar operation had been done upon the tendons of the fingers.

Dr. A. M. Phelps then presented a case of extreme talipes calcaneus with total loss of power of the gastrocnemius and soleus muscles, upon which he had operated in a similar manner. The operation was done on the 22nd of last September, and so far as he knew at that time, it had not been done before. The operation consists in shortening the heel cord about one inch, and in uniting the tendons of the paralyzed muscle to the tendons of muscles which had not been paralyzed—the long flexors of the toes. The foot was dressed at a right angle, and although there had been quite a noticeable gain in power, there had been not so marked a change in the cal caneo-valgus. It would have been better if he had placed the foot at the time of operation in a super-corrected position. He hoped now by the use of Judson's brace, and by improving the condition of the muscles by electricity and massage, to be able to overcome the calcaneus.

Dr. Judson remarked that the function of this brace was to take the weight of the body from the toe, and place it in the neighborhood of the tubercle of the tibia, and hence the front part of the band at the upper end of the brace, should be well padded so as to make this pressure bearable.

TENOTOMY AND TENDON-GRAFTING.

Dr. A. M. Phelps read a paper on this subject

DISCUSSION.

Dr. R. H. Sayre said that his own experience had led him to think that where there was reflex spasm produced by "point pressure," either forcible rupture or section would be required. He did not refer to the spasm existing around diseased joints, but to cases in which there were contractured tendons wholly independent of any joint inflammation.

Regarding the boy, who had been presented, he would say that his father had differed with him as to the best method of treating this boy, his father believing that tenotomy was indicated, while the speaker thought that stretching under ether would be sufficient. The parents of the boy had not agreed to the treatment proposed, and the case had accordingly passed from under their observation. He thought the boy at present showed the same condition as the other patient presented with abnormally elongated tendo achillis, as shown by his inability to stand on his toes. He fully agreed with the author as to the correctness of the general principle of immediate correction after tenotomy, and also thought that in the interesting case in which Dr. Phelps had sutured the flexor muscles of the toes to the tendo achillis, a better result would have been obtained if the foot had been immediately placed in a position of equinus. The author seemed to imply that it would be impossible to make too long a splice in a tendon; this is not so, for there is a point beyond which the muscle cannot contract. His criticisms on the "traction treatment" and its effect on the nutrition of muscle were based upon purely theoretical grounds.

Dr. W. R. Townsend said that as the author had spoken of "contracture" and "contraction," he would like to ask if any of the members could distinguish between these two conditions, for he could not and he knew several of those present who had expressed their inability to do so. He did not think the distinction made between the two conditions of any value as a guide to tenotomy.

Dr. H. W. Berg said that these terms had a well defined meaning, but Dr. Phelps had used them in just the opposite sense. The term "contracture" is applied to a temporary shortening of the muscle, while the term "contraction" is applied to a permanent shortening of the muscle. From this definition, it follows that the muscles which should be cut are those which are *contracted* while the *contractured* muscles demand stretching.

Dr. N. M. Shaffer remarked that the preceding speaker had given the definition of these terms as usually found in dictionaries.

Dr. Brackett, of Boston, being invited to take part in the discussion, said that he had been particularly interested in the subject of tenotomy in its relation to the treatment of club foot in infants. In the treatment of such cases, the surgeon should be guided by the individual case, not by any generally accepted rule. The earlier the deformity is corrected, the more will our efforts be aided by the process of natural growth in restoring it to a normal state. At present, his plan of treatment consists in first correcting the varus by means of a brace, or by plaster bandages, renewed at short intervals, then performing tenotomy, first cutting the plantar fascia; secondly, the scaphoid ligament; and, thirdly, dividing the tendo achillis. The foot is then kept in plaster of Paris from four to six weeks. As a rule, it will be found that the foot has not only been corrected, but will maintain its position, if the precaution is taken to keep on some simple retention shoe until the child is nearly ready to walk.

Dr. S. Ketch said he would like to know on what ground the author had made the statement that mechanical treatment should be abandoned, if satisfactory progress were not observed in the course of "a few weeks."

Dr. A. B. Judson thought that in the fact that our specialty was orthopædic surgery, and that our patients were growing children, was to be found sufficient justification for the continuance of mechanical treatment, not merely for "a few weeks," but for years. If a deformed foot is brought nearly to its normal shape, the growth of the child tends to restore the part to its normal condition; whereas, if allowed to remain deformed, it will grow more and more deformed.

Dr. Shaffer could not accept the views expressed by the author regarding the deleterious effect of traction on the nutrition of muscles; for his personal experience had taught him that traction, when scientifically applied, not only did not cause atrophy, but, on the contrary, resulted in an increase in the volume of the muscle. Moreover, after it has been applied, and especially in cases of infantile paralytic club-foot, it is not at all unusual to observe a pronounced increase in the temperature of the entire member, as well as an increase in motor power, even at

remote points, an increase which is so noticeable as to be appreciated by the patient, and made a subject of comment. Judging from the traction shoe which the author had exhibited, it was evident that he did not know much about the proper method of employing traction.

Dr. R. H. Sayre said that a not infrequent cause of failure of the tendons to unite, was the faulty application of dressings, by which undue pressure is made over the seat of operation, and the gap between the tendons occluded.

Dr. Phelps, in closing the discussion, said that in his use of the terms "contracted" and "contractured," he had simply quoted Barwell and Sayre. He had advised the discontinuance of purely mechanical treatment after a few weeks, because if at the end of this time he found little or no progress had been made, and the parts were rigid, he knew that by doing a tenotomy, he would do the patient no harm, and would not only save much time, but would be able to remove the braces very much sooner. He did not think it was a good plan to needlessly load down growing children with steel braces, for years at a time, as seen in one of the cases presented. He did not advocate the performance of *repeated* tenotomies, but the performance of one thorough one to perfectly overcome the deformity, dressing in the super-corrected position. Traction increases the warmth of the limb only in the same way that massage increases the circulation and temperature of the parts. Where he did employ traction, he preferred to use his hand, to any form of traction apparatus which had been devised. He confessed his inability to distinguish between a contraction and a contracture.

POLIOMYELITIS ANTERIOR ACUTA INFANTILIS; ITS ETIOLOGY AND TREATMENT.—A CLINICAL STUDY OF SEVENTY-FIVE CASES.

This was the subject of a paper read by Dr. Anna M. Galbraith. The new points raised in the etiology of this disease, were the result of three years of careful observation and study of these cases. The necessity for the energetic treatment of the acute stage was emphasized. The histories of five cases seen one month after the attack illustrated that regular treatment begun at this time, might often lead to a practical, if not to a complete cure, of the disease; whereas left to itself, the natural tendency was to go on to atrophy, deformity, etc.

DISCUSSION.

Dr. N. M. Shaffer said that he was familiar with the cases which formed the basis of this paper, and could vouch for the care with which the observations had been made. Regarding the question of whether or not traumatism could be considered an etiological factor, he would say, that his own studies would lead him to oppose this view; and although in the cases cited by the author, the relation of cause and effect seemed clear, he would decline to adopt this view until additional evidence had been accumulated. He took very much the same position in regard to the tubercular diathesis as a predisposing cause of infantile paralysis. Her observations had led him to think that a very slight attack of acute poliomyelitis anterior could occur with complete recovery, and that such cases did occur without any subsequent paralysis.

Dr. Bracket referred to a case in which there was very noticeable hyperæsthesia, followed by the usual symptoms of infantile paralysis Subsequent inquiry had elicited the fact, that frequently with the fever there is marked sensitiveness, particularly at the back. He had been unable to find any mention of this hyperæsthesia in the literature of the subject.

Dr. Fisher thought the history of tuberculosis in these cases was simply a coincidence, and the history of traumatism was hardly of much consequence, as such a history could be obtained in almost all children. In those cases in which the muscles respond to the faradic current within two or three weeks after the initial attack, he felt sure that if they had proper care, recovery would take place; but after a period of three or four months, the cells are known to be so seriously affected, that there is but little likelihood that the damage will be repaired, although by careful and persistent treatment, certain muscles will be strengthened. It has been suggested that mechanical irritation, or an electric current through a nerve, may pass up the cord and irritate the nerve centre in

the cord, and perhaps in this way affect the nutrition of the cell. This is a pretty theory, but when the muscles have absolutely failed to respond to the faradic current, and atrophy is present, together with the reaction of degeneration in the muscle, the muscle is irrevocably lost. Continued massage and electricity will improve the condition of the neighboring muscles, but not of the particular muscle which has already failed to respond to the current. He did not see many children in the early stage of infantile paralysis, but in those which had come under his observation, he had not noticed any great degree of hyperæsthesia.

Dr. Shaffer said that last spring he saw three cases in which there was at first fever, then a period of marked hyperæsthesia, and thirdly, a "limp" condition, which was the stage of true paralysis. He thought the hyperæsthesia was always present, especially in severe cases, to a greater or less degree. In the three cases referred to, the paralysis was more extensive and profound in those cases where the hyperæsthesia was the most pronounced.

Dr. Ketch said that he had noticed in both dispensary and private practice, that children having infantile paralysis, presented a particularly healthly looking appearance, and he had seen nothing to lead him to suppose that these patients were tuberculous. It is reasonable to expect that many of the cases coming to the dispensary would give a history of tuberculosis, so that many more observations were necessary before this point could be considered as settled. He had had an opportunity of seeing most of the cases described in the paper, and he could testify to the marked improvement which had occurred as the result of the treatment adopted. The prevailing idea that these cases are nearly hopeless is not founded on careful clinical observation.

Dr. H. W. Berg said that an important objection to Strumpel's theory that infantile paralysis is an infectious disease, is the fact that adults are never affected with poliomyelitis anterior; and the fact that two or three cases have occurred in the same family, or that in a certain town out of a population of fifteen hundred, quite a number of cases have occurred, does not prove anything. He did not think the method of treatment employed during the first month made any difference in the ultimate result, for the cells if severely inflamed, will be permanently damaged in spite of any treatment which might be employed.

Dr. Galbraith, in closing the discussion, said she had known hyperæsthesia to occur as early as the fourth day, and to last as long as two months. Its intensity and duration would appear to be in proportion to the extent of the parlysis, and it disappeared in the same order as the retrogression of the paralysis.

The traumatism must be sufficient to cause concussion of the spine in a spinal cord predisposed thereto. In two of the cases, fever had occurred in a few hours, followed by paralysis on the third day.

The prognosis in the acute stage should be more guarded, since death may occur with the onset of the paralysis. And further, since many children die during the second year, at which age this disease is most frequent, and under the same circumstances, in which no autopsy is made, it must be believed that this malady is more fatal than is generally supposed.

The belief in a tubercular diathesis was based,—1st. On the frequency with which pulmonary tuberculosis was found in the family history of these patients, thirty per cent. Of these, twenty-five per cent. had phthisis in both the paternal and maternal families; thirty-seven per cent. showed two or more members of the same family to have suffered from phthisis; thirty-three per cent. had phthisis with some well-marked neuroses. 2nd. The profound impression made by the disease on the general health, fifty per cent. subsequent to the attack showed in addition to the profound anæmia, marked emaciation with a tendency of the mucous membranes to become inflamed, enlarged glands, sore eyes, urticaria, and obstinate eczema. 3rd. The slight power of resistance of these patients to any intercurrent diseases, as pertussis, measles, etc.

The prognosis as to ultimate recovery or improvement in the chronic stage will depend on the extent and severity of the paralysis, the length of time which has elapsed since the onset, and the regular-

ity with which the treatment is carried out. At the onset of the paralysis only *some* of the ganglionic cells are destroyed, others are simply disabled or threatened through congestion of the cell, great pressure, and infiltration of the tissue, as well as by lack of nourishment due to the blood stasis. Hence the necessity for treatment directed to the condition of the cord, as well as the direct treatment of the muscle, stimulation of which tends to prevent its degeneration, and through the muscular contractions, acts on the ganglionic cells.

The Medical Digest.

TUBERCULOCIDIN.

KLEBS has sent out a pamphlet in which he gives the results obtained by him in the treatment of tuberculosis by his new remedy, tuberculocidin. This substance is obtained by precipitating Koch's tuberculin by platinum chloride, removing the noxious elements, and leaving the albumose in solution. This albumose contains the curative principle of tuberculin. Of it, a dose equal to $\frac{1}{5000}$ of the body weight may cause only half a degree (C.) rise of temperature in a tuberculous guinea-pig. Tuberculocidin exists in tuberculin in the proportion of 1 to 40; so that the dose of the former is $\frac{1}{40}$ that of the latter. It is regarded by Klebs as a secretion of the tubercle bacilli. In favorable cases it causes decomposition of the bacilli, which, after the injections, are found in the sputum presenting a granular appearance, as in the old cavities; irregular in size and shape, imperfectly stained and presenting evidences of decomposition. These changes disappear when the injections are discontinued after a few days' trial, and re-appear when the tuberculocidin is again employed. The temperature may rise sharply after the first injections, but a decided antipyresis follows, and the daily range soon approaches the normal. Large doses may cause so much malaise and emaciation that they must be discontinued; to be resumed if the temperature again rises. Tissue changes observed, such as exudation into tubercular tissues, are due to the natural tendency of the bodily tissues to repair, when the tubercle bacilli have become weakened.

As to the results, Klebs has studied seventy-five cases, mostly of pulmonary tuberculosis, long enough to warrant deductions from their course. Of these, fourteen cases were cured, forty-five improved, fourteen unimproved, and two died. Of his own cases, eight were cured, twenty-one improved, two unimproved and two died. Among the unimproved were a number of very advanced cases.

Local tuberculosis was not included in this list. Laryngeal phthisis was notably benefited, and necrosis of the tissues and spread of the bacilli never occur during treatment with tuberculocidin. Unless there is fever or hemorrhage, the patient can attend to business or to the ordinary occupation. If the fever persistently recur and the debility be great, Klebs advises the additional treatment by the rest-cure, benzosol, suralimentation, and a residence at Davos.

In the use of tuberculocidin he recommends the Overlach syringe, carefully cleansed *before* using, by absolute alcohol and then by carbolic solution, one per cent. After using, the carbolic solution is again applied, and then the alcohol. The initial dose is two to five milligrams. If the fever remains below 38° C., the dose may be rapidly increased to six or eight centigrams; the curative dose for man being ten to fifteen centigrams in all, or at least five cubic centimeters of the undiluted lymph. A rise in temperature is an indication for an increase in the dose.

Mayor Stuart has requested Councils to authorize the appointment of a commission to report upon the sale of the present hospital for contagious diseases, and the location of a new one, with four separate pavilions, a detention ward, crematory, disinfecting plant, etc. The commission is to be composed of two physicians skilled in sanatory matters, one member of the Board of Health and the physician of the Municipal Hospital.

Meanwhile it is as well to note the fierce opposition to the proposed re-opening of the croup ward in the Children's Hospital, as a feeble example of the feeling that would be aroused by the proposal to locate a hospital for contagious diseases in any ward of the city.